

Navigation Northwest

A Quarterly Newsletter of the Seattle Navigation Committee
Volume 3, Number 1 **March 2015**

A Free, Powerful Mapping Tool Using CalTopo to Plan a Trek

By Brian Starlin

Every year I prepare a few 50-Miler backpack treks for a Boy Scout troop. The scouts select a trek and plan the campsites and mileage for each day. This year, I tried the online mapping site, "caltopo.com".

CalTopo began as a California repository of maps and trails for search and rescue. The developer, Matt Jacobs, has since added the entire United States and continues to add features and interesting layers, like enhanced shading or Snotel sites.

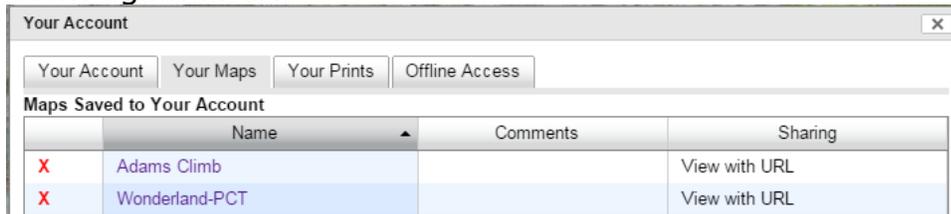
I found the site after using CalTopo tiles in my Android with Backcountry Navigator Pro, a GPS app. I've also planned trips in the past with Garmin Base Camp and Delorme Topo, but I found CalTopo to be better in one regard...I could instantly send a URL to the Boy Scouts, including my objects and layers. It was easy to start doodling on the map. There are menus along the top and left sides. First, I searched for Chinook Pass in the top menu, which centered the map there. That menu has other good options available, and a simple mouse over opens them up.



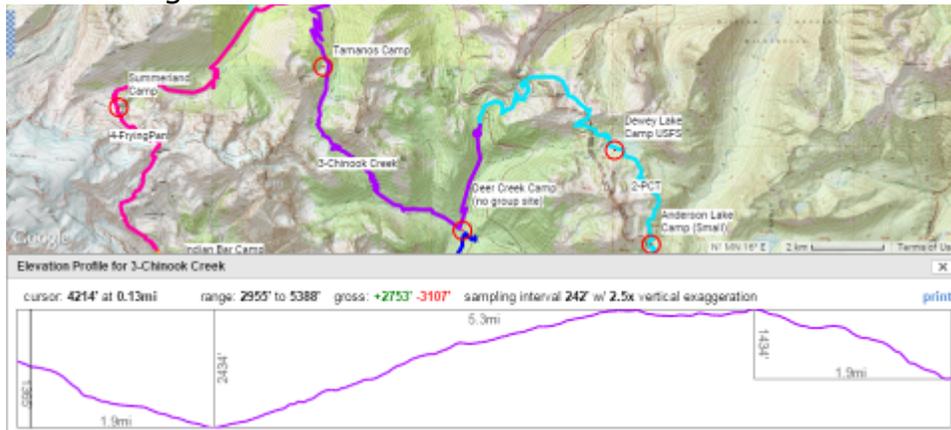
Then, I began adding lines and markers to highlight trails and campsites east of Mt Rainier. They want to hike a portion of the PCT and the Wonderland Trail. I created lines in different colors to help see one or two days' worth of trail, based on campsites available. We plan seven days for 50 miles.



Soon, I realized that I could login via Google and save my work. You can also login via Yahoo. I could close one map and start another one, and work with them again later.

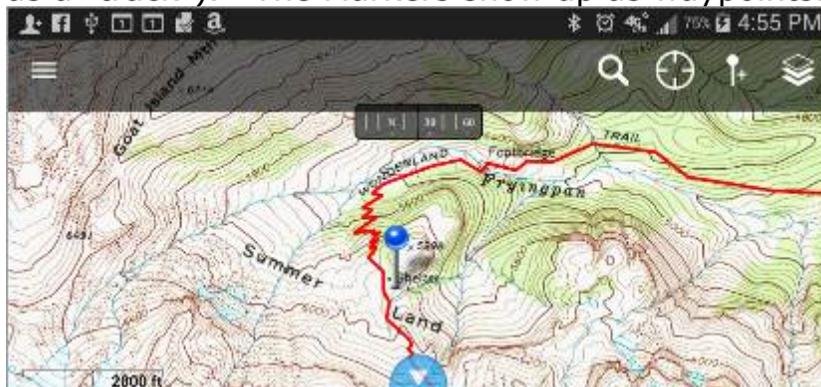


After adding some lines, I could bring up the profiles and run my mouse along them. A small traveling dot displays on the map and you can estimate elevation gains and distances.

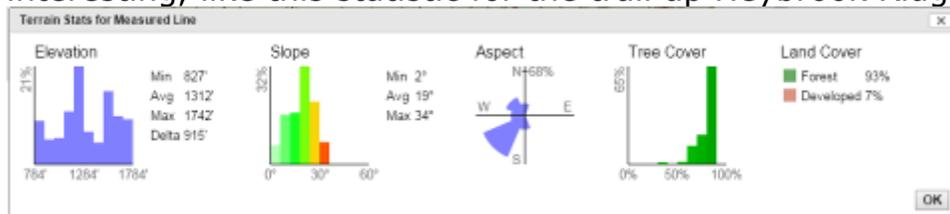


After much more doodling, I "Shared this Map", and sent a URL via email. In the options, I could set the map for private or public viewing. I could also print the map and profiles to a printer or PDF. I prefer to print to PDF and then use the PDF ability to "posterize" the print job and then tape several pages together. I remember reading that a saved map is good for 90 days, but I can't find that. The developer has posted tutorials in YouTube. Check them out - <https://www.youtube.com/channel/UC5iP3ML130C7CsmHK-TUc8Q>

The GPX Export looks good in Gaia Pro GPS app for Android. I designated the lines as a "route" and they show up that way in Gaia (You can also mark a line as a "track"). The Markers show up as waypoints.



I quickly toyed with the “Measure” menu that allows you to quickly check distances, profiles, and several other things. The “Terrain Statistics” is interesting, like this statistic for the trail up Heybrook Ridge:



I haven't tried all the layers and objects. Nor have I tried the direct connection to a Garmin GPS. But it's been great for planning our summer treks.

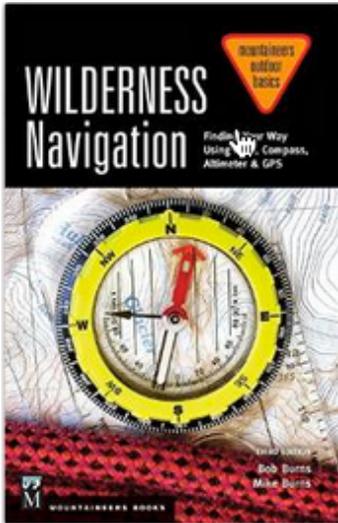
Caveats, you wonder? There must be caveats if it's free (donations are welcome, and they go to the developer's Mountain Rescue group). I found only one thing I didn't like, and that was the scaling of the profile. If I draw a single 50-mile line on the trail, I can see a single profile that is scaled properly in the vertical direction, but it's squeezed horizontally to where I can't see the minor variations. If I break the lines into 10-mile chunks, I can see five different profiles that are scaled well horizontally. But the vertical scale for each chunk is different, based on the minimum and maximum elevation for that section. [Editor note: CalTopo is also a choice inside the free GMap4 app.]

--Brian Starlin is a veteran navigation instructor with many workshops, field trips, GPS sessions and introductory evenings to his credit. He is intermediate climb qualified, a SAR volunteer, and Boy Scout leader. By day he works in the telecom industry. Brian is the Navigation Committee treasurer and quartermaster. Contact: brian.starlin@comcast.net.

Mountaineers Books Launch Wilderness Navigation, 3rd Edition Bob and Mike Burns Update Their Classic

The Seattle Branch Navigation Committee hosted co-authors Bob and Mike Burns at a book signing party March 26 to celebrate the publication of Wilderness Navigation, third edition. The father and son team note:

“Since the publication of the second edition in 2004, we have received from readers a number of suggestions for improvement. We have incorporated many...including an update to the descriptions of presently available maps, compasses, altimeters, and Global Positioning System (GPS) receivers, as well as updated declination maps...Since 2004 there have also been some important changes to the GPS, requiring updates to that chapter, including the interfacing of the GPS receiver with the home computer, as well as using the GPS function in smart phones.”



The book continues to be required reading for the Seattle Basic Navigation Course, as it is for most other branches. Members receive a 20% discount off the \$16.95 Mountaineers Books list price. An eBook PDF version lists at \$13.95.

The authors pledged that later printings will track any changes in Mountaineers approved compasses. Mike and Bob were joined by founding Seattle Navigation Chair Morgan Robinson and Mountaineer Books Director of Sales & Marketing who stayed through the regular committee meeting.

--Editor

A SAR/Land Surveyor Checks Out \$7 Chinese Compasses

The UST Baseplate, Declination Adjustable "Folding Map Compass, Black"

By Bob Boyd, PLS

New, \$7 compasses have begun appearing in Basic Navigation classes. Amazon is selling them and students are sensing a great bargain for a clear baseplate, declination adjustable, hinged mirror, 2 degree accuracy compass. Similar models from major manufacturers are \$40 to \$50.

Seattle Branch Navigation Chair Peter Hendrickson purchased two of the USTS "Folding Map Compass, Black" compasses from Amazon, directing the shipment to my place. I ran them through their paces as we do all compasses being considered for bulk purchase to use in SAR training exercises. They sure look like the old, black Bruntons.



My observations from the examination of the UST compasses:

- When you open up the package, this 1" long screwdriver falls to your feet.
- The hole in the screwdriver is too small for the lanyard, a 5-10 minute fix.
- The three little rubber knobs that come in contact with the table point upwards.
- UTM scale is 1:25,000 not 1:24,000.

- The bezel has no slop; is hard to turn but may get better with usage.
- Freeze test: needle is almost frozen solid but warms up & moves.
- Freeze test: bezel is very hard to turn.

- Needle length is 1.4", black & red and is not spinning freely due to the wrong needle dip for this latitude.
- The clinometer arrow is hanging up on the needle causing problems for both arrow and needle.
- Compass pointing error is 1° Lt +/-, if you tap on the stuck needle enough times.
- A needle with a stronger magnetic field would help.

- Magnification glass NA
- Leveling bubble NA
- Mirror is fair to good.
- The scribed line in the mirror, even with a headlamp, is very hard to see.
- I enhanced the line in the mirror with a carbide scribe.

- Lid is good.
- Baseplate is good.
- Hinge is good.
- Glow in the dark--best to use a headlamp.

My conclusion: this compass is not suitable for King Co SAR or Mountaineers use. Reactions from two instructors were, "Better to take the \$7 and buy a hamburger" and "Can't say I'd trust my life to a compass that costs less than my topo map."

No Two Compasses Point In The Same Direction – All Compasses Must Be Sighted In Before Using.

[Ed: Ultimate Survival Technologies (UST) of Jacksonville, FL, offers a range of outdoor survival gear through Amazon including whistles, lanterns, fire starters, shelter... <https://www.ustbrands.com/about-us/>.

--Bob Boyd is an King Co SAR and Mountaineers volunteer instructor and compass consultant. He is a Washington State licensed land surveyor.

Mountaineers Books Launches Online Navigation Course Project Basic Navigation Course ELearning Pilot Planned

Mountaineers Books has started a project to bring a club-wide Basic Navigation Class into the online world. Doug Canfield, director of sales & marketing, is supporting a team to pilot an eLearning course and is harvesting documents and other materials from Seattle and other branches. Any branches that agree to contribute workshop curriculum, teaching materials, student aides, trainer

curriculum...will be invited to become partners in the project. The Board of Directors has funding to support the effort including contracting with a vendor to develop the project.

Canfield said the vision for the ELearning Project is to provide these benefits for our organization:

1. Capture the valuable outdoor education assets that now reside in branch committees and on members' computers and make those resources available to any volunteer instructor who wishes to use them, thus removing an obstacle for a potential volunteer who is passionate about sharing his/her knowledge and enthusiasm for a sport but doesn't know how or have the time to create a course from scratch.

2. Extend our educational opportunities to Washingtonians who either don't live near a course location (e.g., a student in Wenatchee who can travel to Stevens Pass for the field trip day as easily as a student living near the Program Center, but can't get to the PC for an evening lecture) or are discouraged by conditions (e.g., heavy traffic, bad weather, illness, etc.) from physically reaching the course on a weekday evening.

3. Offer more courses in more locations. According to a recent survey of twelve months of Mountaineers classes, more than 125 non-core skills courses were offered at only one branch. Most of these were taught by a single member and offered in lecture format. Ultimately, the ELearning Project would hope to capture many of these as self-study opportunities for members.

NOTE: Providing access to educational resources doesn't imply a "mandate". No volunteer instructor, committee, or branch would be required to use any of the resources collected and organized by the ELearning Project. They would be available for those who wish to use them either in whole or part, as instructional resources, enhancements, and tools.

Navigation was selected as a pilot course as it is a core skill, is shorter than many other courses, combines knowledge and practice, builds community, and is taught (in some fashion) in all branches. The ELearning would not be a substitute for practice in the field.

Team members are Canfield, Margaret Sullivan (Books Managing Editor), Tab Wilkins (Chair, BOD Past President & Alpine Scramble Intense lead), and Peter Hendrickson (Seattle Branch Secretary and Navigation Chair).

Smart Phone and Dedicated GPS Navigation Course

Are you interested in learning to use your smart phone as a wilderness GPS? Maybe you have had a dedicated GPS for years and want to get the most out of it? The Smart Phone and Dedicated GPS Navigation course is for you! We will cover basic usage of both dedicated GPS units and some select GPS apps for smart

phones, as well as common issues that can affect GPS accuracy and ways to avoid them. This course is an evening at the Mountaineers Seattle Program Center in Magnuson Park, split between a classroom lecture and a hands-on outdoor exercise. This course is open to Basic Navigation students and graduates.

Topics include:

- Overview of how GPS works
- Common accuracy issues and solutions
- Review of UTM coordinates
- Entering waypoints
- Navigating to a way point
- Back tracking a route
- Overview of emergency locating beacons (SPOT, PLB)

Students need to bring a GPS enabled device to the class; loaners are not available. We cover both Gaia for iOS and Android devices (\$20, pro not required) and Garmin dedicated units. Other brand GPS units are welcome, but instructors may not be familiar with them. Lead course administrator is Brain Seater.

The current URL provides a description. See 2015 dates below:

<https://www.mountaineers.org/about/branches-committees/seattle-branch/committees/seattle-navigation-committee/course-templates/smart-phone-dedicated-gps-seattle/smart-phone-dedicated-gps-seattle-2014-2>

Smart Phone & Dedicated GPS Course	Location
Monday, April 20	Seattle Program Center
Thursday, May 14	Seattle Program Center
Monday, June 22	Seattle Program Center
Tuesday, August 11	Seattle Program Center
Monday, October 05	Seattle Program Center

Basic Navigation Course Offerings 2015

Date & Day	Workshop	Date & Day	Fieldtrip
02 Apr, Thursday*	Program Center	11 Apr, Saturday*	Heybrook Ridge
29 Oct, Thursday	Program Center	07 Nov, Saturday	Heybrook Ridge

**Registration preference to 2015 Alpine Scramble students*

○

Introduction to Map & Compass—Getting Started

The Seattle Navigation Committee has scheduled six 2015 Introduction to Map and Compass dates at the Sandpoint Way Program Center from 6:30 to 8:30 p.m. Instructors are drawn from the pool of Basic Navigation Course teachers. You can enroll at: <https://www.mountaineers.org/about/branches-committees/seattle-branch/committees/seattle-navigation-committee/course-templates/introduction-to-map-compass/introduction-to-map-compass-seattle-2014-1>.

Primary Leader is Greg Testa. This Getting Started introductory class does not satisfy the navigation requirement for Alpine Scramble, Basic Climbing, Snowshoe or Backcountry Ski.

Introduction to Map & Compass 2015	Location
Thursday, April 16	Seattle Program Center
Tuesday, May 12	Seattle Program Center
Thursday, June 18	Seattle Program Center
Monday, August 17	Seattle Program Center
Thursday, September 17	Seattle Program Center

Finding Navigation Courses, Activities and Events

Here are some tips from the Navigation Committee for instructors and students to find and enroll in Seattle navigation courses, clinics and events.

- **Basic Navigation Course, Introduction to Map & Compass, Smart Phone & Dedicated GPS Course** are best located by:
 - Clicking the Learn tab on the Mountaineers home page.
 - Choose Select An Area...Navigation and click on Find Courses
 - Scroll down the Courses, Clinics and Seminars page to the Seattle course of your choice, for example Basic Navigation Course—Seattle
 - Course Activities will be listed so click on the date(s) wished
 - Click on the Registration Call Out for either Student or Instructor
- **Navigation Committee Meetings and other Events**
 - These are events so start with About on the home page
 - Click on Branches & Committees, then select Seattle Branch
 - Click on upcoming EVENTS to display a monthly calendar grid where you find activities and events in the Program Center and elsewhere
- Need More Help?
 - Committee Chair Peter Hendrickson responds to emails most days: p.hendrickson43@gmail.com
 - Activity leaders listed with the activity description also respond.

Program Center staff are deeply knowledgeable at Home Page: About tab, Contact Us, QUICK HELP: info@mountaineers.org or TEL 206.521.6001 Member Services

Navigation Projects

Our Seattle Volunteer Park effort to create a navigation map and compass practice course remains "under construction." Efforts to engage high school students in

the planning and execution have not panned out to date. Drop me a line if you'd like help in this project.

--Editor

Links, Apps of Interest

Our often-consulted Seattle Navigation website has lived "outside" the official The Mountaineers website for many years. Sub-Committee Chair Wes Rogers is working with staff and other committees to see how we might bring our pages into the fold. Your comments and suggestions are ever welcome.

Below are some links and apps that may be of interest:

- A new free [Mountaineers App for Android Phones and Tablets](#) is available on Google Play. This App was developed by a recent Basic Grad to win the challenge of finding and signing up for Climbs. It actually works for all activities and does a number of useful and frequent member tasks. It's worth a try if you are on an Android device.
- A rollicking stroll through the history of bench marks, wrongly named summit altitudes, inter-agency mapping rivalries, plus both the Eastern Oblique Arc & the Transcontinental Arc from our friends at summitpost.org <http://www.summitpost.org/on-bench-marks-history-purpose-and-a-mountaineer-s-perspective/613557>



- An unusually clear layout of several topo map screen captures with overlaid text and brief captions. Your topo map reading skill may improve. <http://weather.gladstonefamily.net/topoweb/guide.html>

Navigation Gear--Compasses

Required Features of a Compass for Seattle Basic Navigation Course

Seattle Mountaineers—Revised October 2014

1. **Adjustable declination:** A moveable orienting arrow, which provides a built-in declination adjustment. If there is one feature that simplifies map and compass work, this is it. Compasses with adjustable declination can often be identified by the presence of an adjustment screw, usually brass or copper-colored, and a small key attached to the lanyard.
 - All students **MUST** have a compass with adjustable declination. The presence of a declination scale does not guarantee that it can be adjusted. We also recommend not having the 'tool-less' declination feature (we have no experience with newest models).
 - If you already have a compass without adjustable declination, you may not use it in this course. Experience indicates that such compasses detract from the learning experience.
2. A **transparent rectangular base plate** with a direction of travel arrow or a sighting mirror.
 - Transparency allows map features to be seen underneath the compass.
 - A rectangular shape provides straight edges and square angles to plot and triangulate on the map.
3. A **bezel** (the rotating housing) marked clockwise from 0 to 360 degrees in increments of two degrees or less. In general, bezels should be large to allow use while wearing gloves - the larger size also improves accuracy.
4. **Meridian lines:** Parallel 'meridian lines' on the bottom of the interior of the circular compass housing rotate with the bezel when it is turned. The meridian lines run parallel to the north-south axis of the bezel, however turned, for plotting and triangulating on the map.
5. A **ruler and/or gradient scale** engraved on one of the straight edges, used for measuring distances. Compasses with other additional scales facilitate advanced navigation.
6. A **3 to 4-inch base plate**. A longer straight edge makes map work easier.

Additional recommendations

- A sighting mirror in the cover: This reduces errors introduced when moving the compass from eye-level after sighting to waist-level for reading the dial.
- A liquid-filled housing: Reduces erratic needle movement (only needed on some compasses). In some cases, steadying the compass needle can be difficult
- An inclinometer: a gravity driven arrow that allows you to measure slope angle.

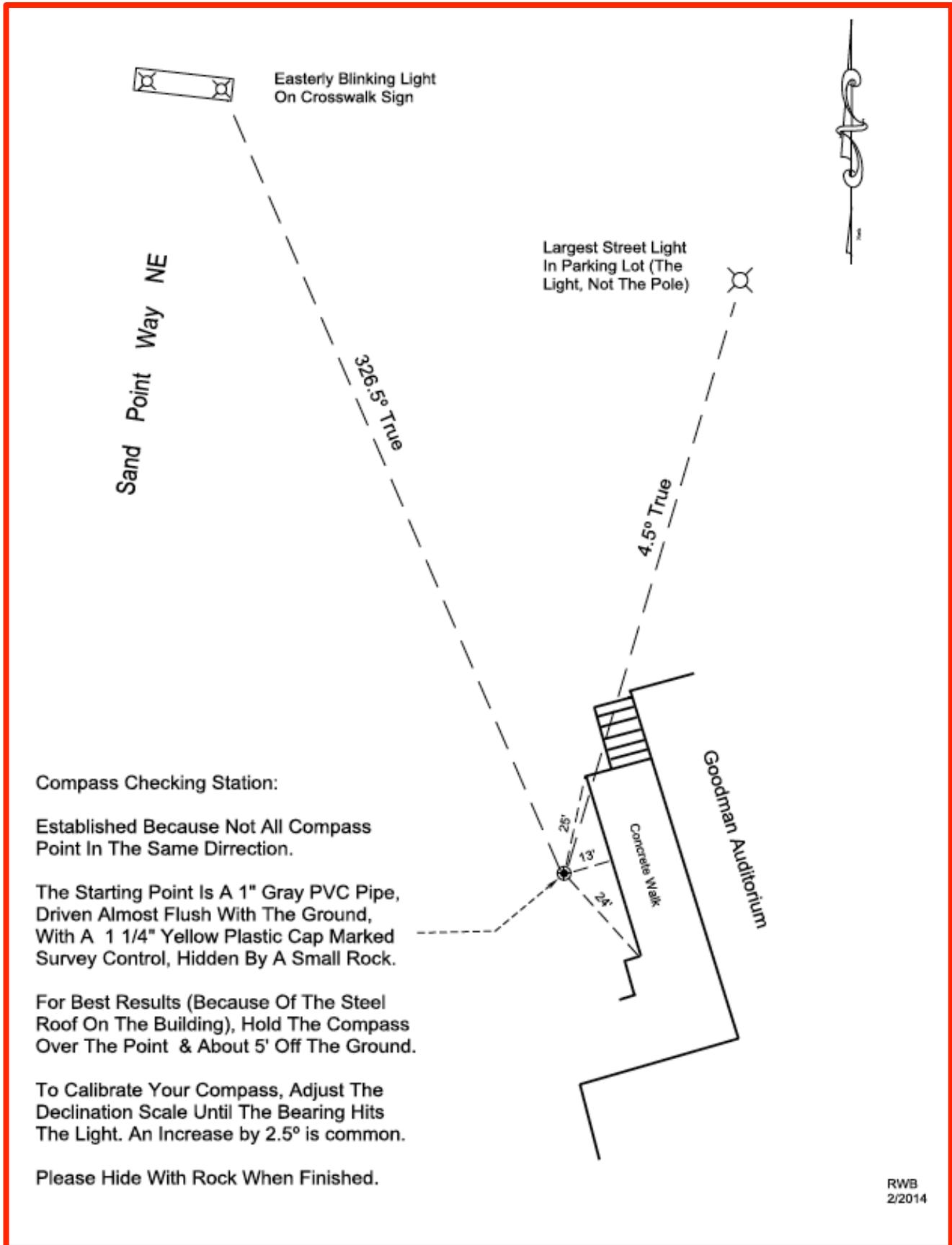
Current favorites with a sighting mirror include the Silva's Ranger CL and Ranger 75.

Recommended compasses without a mirror include the Suunto M-3 IN and the Silva Explorer Pro.

Please note that not all of these recommended compasses are available at REI. Silva can be purchased online at Campsaver.com and at Cabela's. Suunto is currently available at REI and online. Keep any receipt! We have unfortunately had many defective compasses in the past.

Brunton compasses have also been recommended. However, current offerings all now include 'tool-less declination' which requires pressing down on the bezel to set the declination. We have found this to be difficult and may not provide the best accuracy. While Brunton compasses meet all our specifications, tool-less declination makes them problematic and we do not recommend using this brand for the class.

We also recommended the Suunto MC-2 last year but experienced issues with warped mirrors as well as incorrect declination settings. The manufacturer has corrected the mirror, but a local SAR has reported that most compasses still exhibit the declination problem. Most can be corrected with an additional 2 degrees East adjustment (e.g., 16 degrees East would need to be 18 degrees East). If you are comfortable with declination settings and taking accurate bearings with this issue in mind, the MC-2 is OK. However, we would not recommend using it for the Basic Wilderness Navigation course.



Compass calibration station, Program Center. Find yellow stake 13' from doors.

Navigation Gear--Compasses

Bob's Hard Won Compass Hints

By Bob Boyd

Below are ten compass hints, each of them generated by field experiences. Many thanks to the students who make errors in the field and continue to contribute to our knowledge about problems with hand bearing compasses.

1. Because not all compasses point in the same direction, calibrate your compass to a known bearing before using the compass course. If your compass points 2° right, increase your declination by 2°. Therefore 16° E becomes 18° E and will push your compass left.
2. Center the Bezel between the top and the bottom marks on the baseplate. Most Bezels have some side-to-side slop. If the compass reads 20° on the top of the Bezel, it needs to read 200° (20° plus 180°) on the bottom of the Bezel. This will center the Bezel within the baseplate.
3. Keep your fingers off the compass lid when sighting the compass. The slightest twist to the lid will also twist the mirror and change the pointing of the compass.
4. Make a long lanyard to go around your neck. This will allow you to extend your arms out and at the same time pull against your neck. This creates a solid support for usage of the compass.
5. Bring your own reading glasses for operating your compass.
6. Fogging of compasses and glasses is common. Use anti fog when things are dry, not when foggy.
7. Headlamps in the brush and other low light conditions, makes for easy reading. If working in teams, your partner can more easily see you, too.
8. Using black gloves while using a compass makes the compass needle hard to align. A piece of white, waterproof paper held under the compass makes for easy reading.
9. Check your compass often, especially on long compass runs. Bezels will move.
10. Do not change the settings on the compass for offsets and back bearing. A back bearing can be accomplished by placing the needles backwards within the bezel. For a right angle offset, just look across the hinged and count your paces

--Bob Boyd is a SAR and Mountaineers volunteer instructor and compass consultant. He is a Washington State licensed land surveyor.

Lost and Found on Heybrook Ridge, A Tale of Discovery **She Loaned a Compass to a Student 2 Years Ago and He Lost It but...**

The Seattle Branch Navigation Committee offers five full-day field trips to Heybrook Ridge near Index each year. The “final problem” is a tough scramble for students and instructors, over 1000 meters through deep forest and broken terrain on differing angles from the fall line.

Folks lose items from time to time. Two years ago veteran instructor (and current First Aid Chair) Mary Panza loaned her compass to a student (not to be named). The student graduated but the compass did not. To our surprise, student Kelly Gaddis appeared March 14 at the catch line with two compasses, his own, and a found compass with the taped initials “MP.” He emailed her the good news.



This has an MP on it and I'm told it's yours and has been in the woods for two years! It will be in your first aid cubby.

Regards,
Kelly Gaddis
Sent from my iPhone



Seattle Branch First Aid Chair Mary Panza and her long-lost Silva. Mary has volunteered as a navigation instructor for many years.

Some navigators even tape address labels on their compass, radio and headlamp.

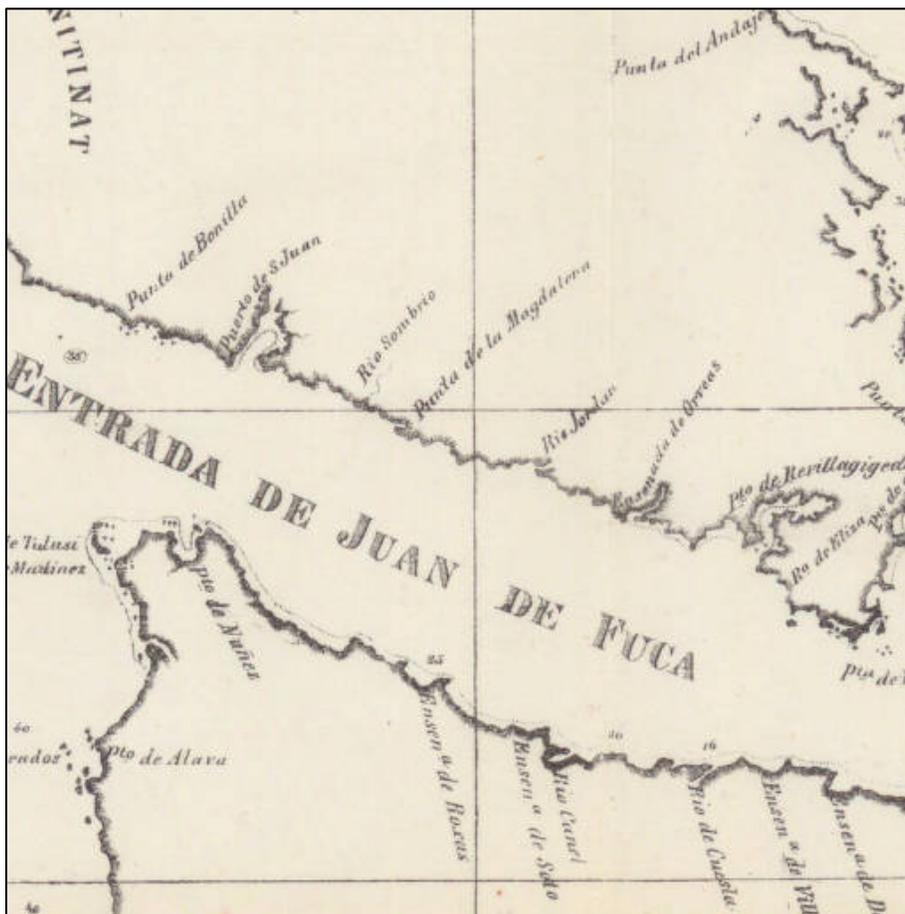
Navigation Gear--Maps

Terra Incognita: Early Maps of the Pacific Northwest

By Brian Carpenter

Contour lines, UTM grids, altimeters and global positioning systems all help pinpoint our location on a map. Every bit of our USGS quads and GreenTrails maps is packed with micro-level details. We have accurate and precise maps, but have you ever looked in awe at ancient maps of the sea, dragons and strange creatures cavorting in the water, and longed for the sense of mystery and adventure implied in those old and vague maps? Looking at some of the early maps of the Pacific Northwest, perhaps we can recapture some of the mystery and wonder felt by Lewis & Clark, Vancouver, Gray and Wilkes.

Spaniards sailing north from California were some of the earliest European explorers of the Pacific Northwest and it is to them we are indebted for place names such as San Juan, Juan de Fuca, Camano, Guemes, Fidalgo and Padilla. This Spanish map from 1795 shows an early take on the coastline of the Strait of Juan de Fuca and Vancouver Island.



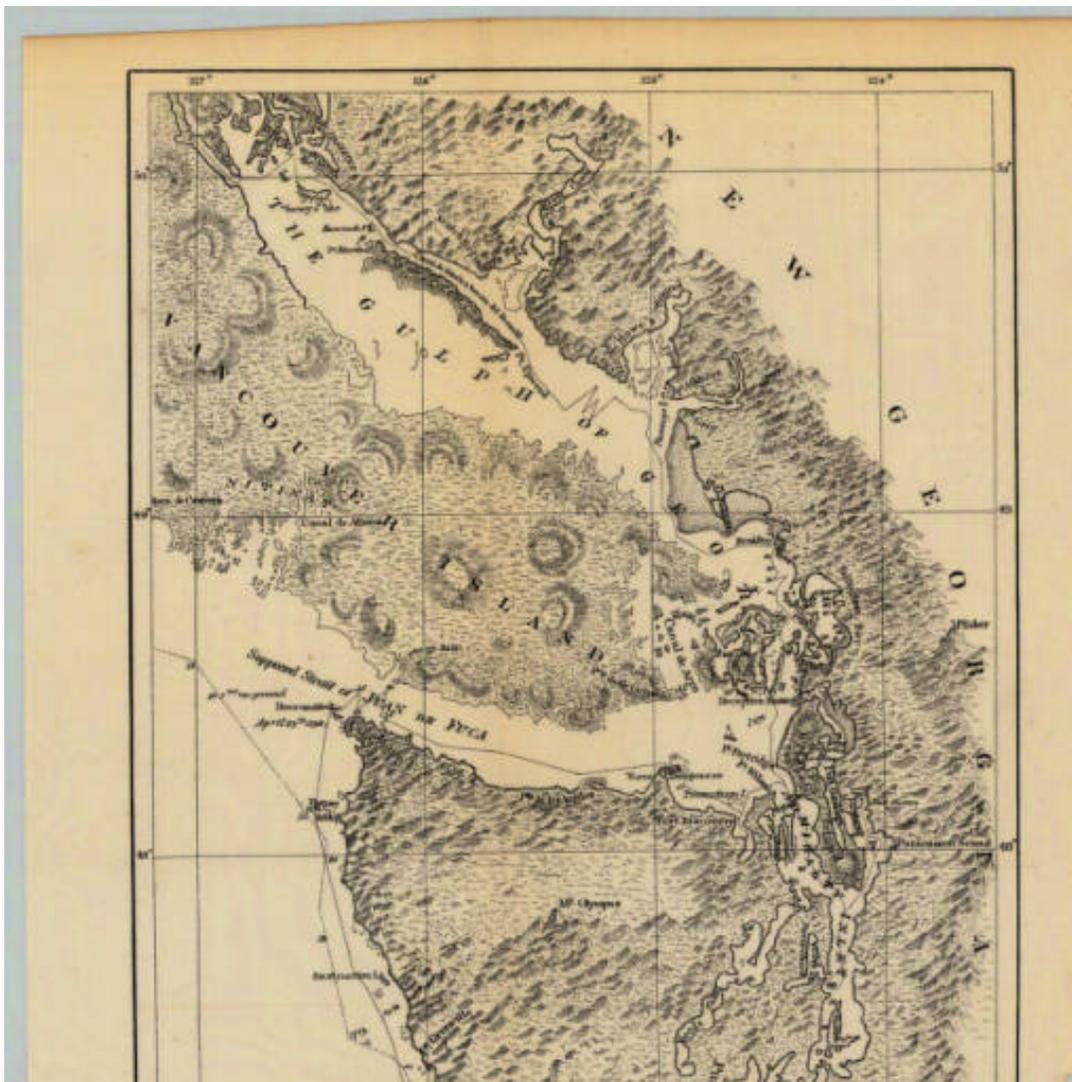
Source: University of Washington Libraries Early Washington Maps Collection.

The full-scale map can be found here:

<http://content.libraries.wsu.edu/cdm/fullbrowser/collection/maps/id/208/rv/singleitem>

Notice the total absence of landscape detail beyond the coastline. When the sea is your highway, only the landmarks along the shore are important.

Captain George Vancouver explored and named many places in Puget Sound (including the Puget Sound after Lt. Peter Puget who surveyed south of Seattle) in 1792 and 1793, mostly in small sail and oar-powered craft, the very waters being unknown and not safe for larger ships. His map of the area is naturally focused on the shoreline and water bodies, the landscape lacking much in the way of details except generalized drawings of mountains. Vancouver's map from the 1790s was still in use many years later.



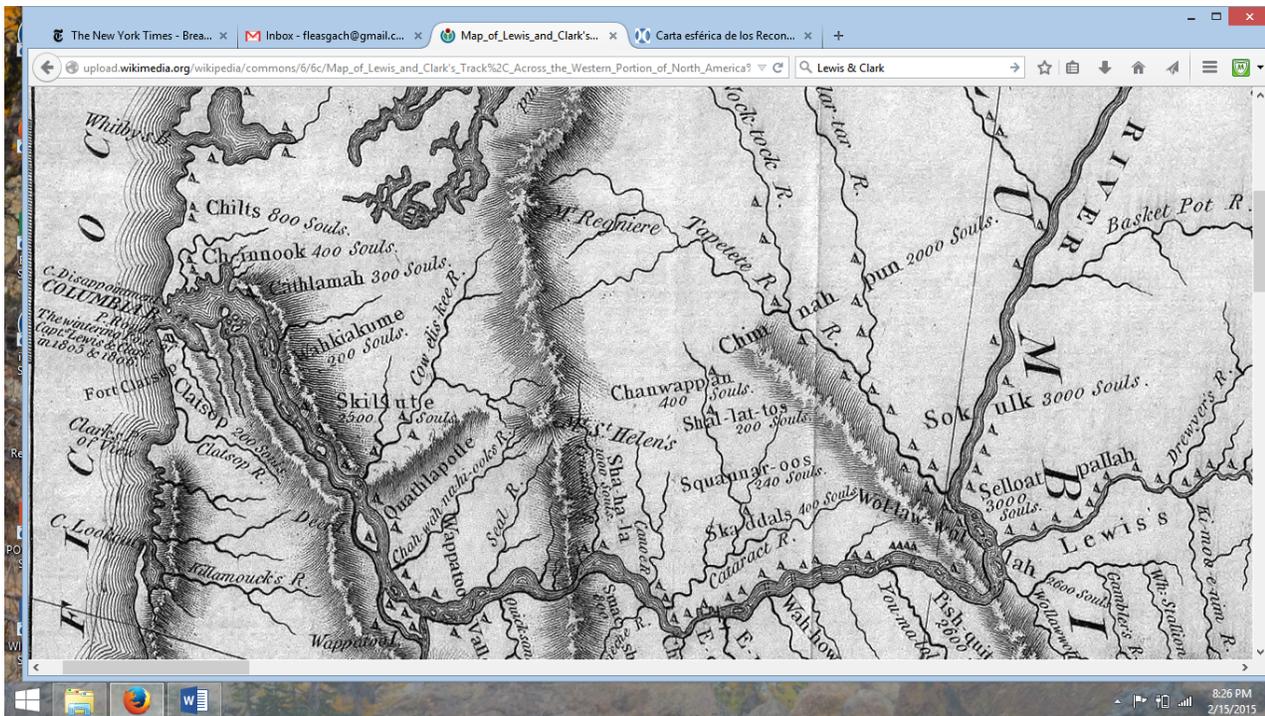
Source: University of Washington Libraries. One can find an enlargeable version here:

<http://content.libraries.wsu.edu/cdm/singleitem/collection/maps/id/420/rec/8>

Imagine being tasked with exploring the Olympic Mountains and this was the best available map!

Lewis and Clark's Corps of Discovery travelled down the Columbia River and wintered on the south side of the Columbia River bar, calling their bedraggled collection of log buildings "Fort Clatsop" (now a state park). Since they were travelling by river much of the time, their map is understandably focused on the rivers, reducing the mountain ranges to vague wrinkles on the 1842 map.

Fort Clatsop appears surrounded by Indian tribes: "Clatsop 200 souls...Chinook 400 Souls, Cathlamah 300 souls". GreenTrails does not enlighten us as to the number of souls at Snoqualmie Pass or Leavenworth.



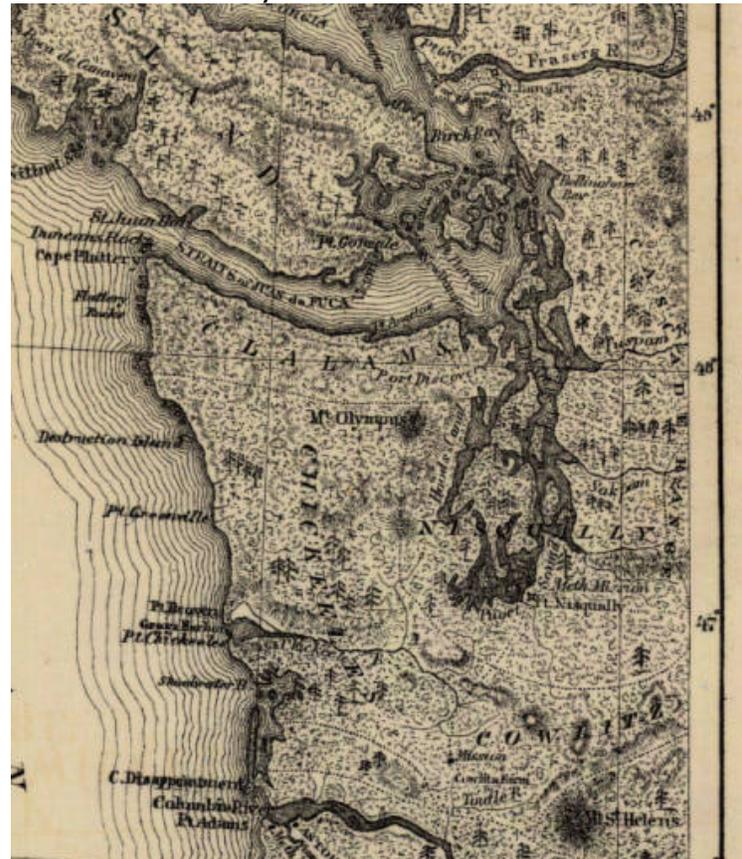
Source: Wikipedia, Lewis & Clark Expedition. The large scale map of their entire route can be found here:
http://en.wikipedia.org/wiki/Lewis_and_Clark_Expedition#mediaviewer/File:Map_of_Lewis_and_Clark%27s_Track,_Across_the_Western_Portion_of_North_America,_published_1814.jpg

By the 1830s, when Captain Benjamin Bonneville led an expedition to explore the western territories, the map quality seems to have degraded. Note the lack of detail in Puget Sound and the Columbia River.



Source:
<http://content.libraries.wsu.edu/cdm/singleitem/collection/maps/id/701/rec/21>

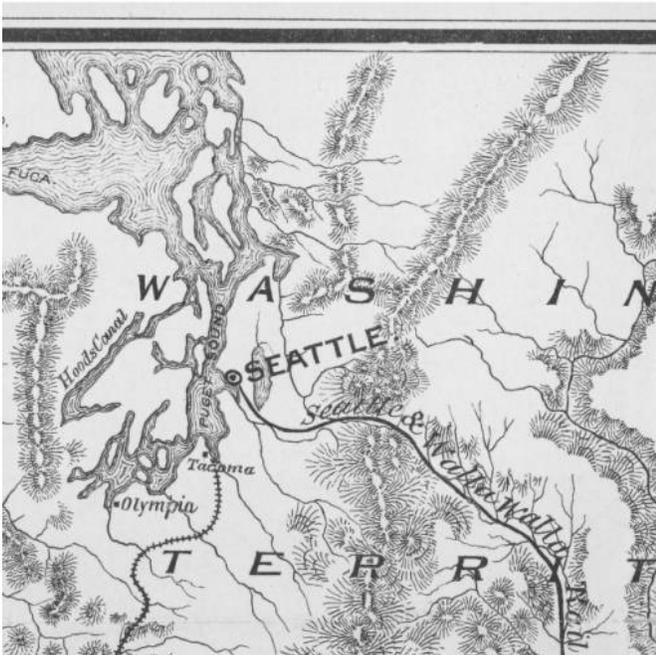
In 1845, Charles Wilkes led a US Navy expedition to explore the Pacific Northwest. The resulting map shows marked improvement but still lacks much in the way of interior details.



Source: University of Washington Libraries Early Washington Maps Collection:
<http://content.libraries.wsu.edu/cdm/singleitem/collection/maps/id/425/rec/24>

As railroads were built across the west, maps became of increasing importance, both to determine where to place the railroads but also to show travelers where the trains would take them.

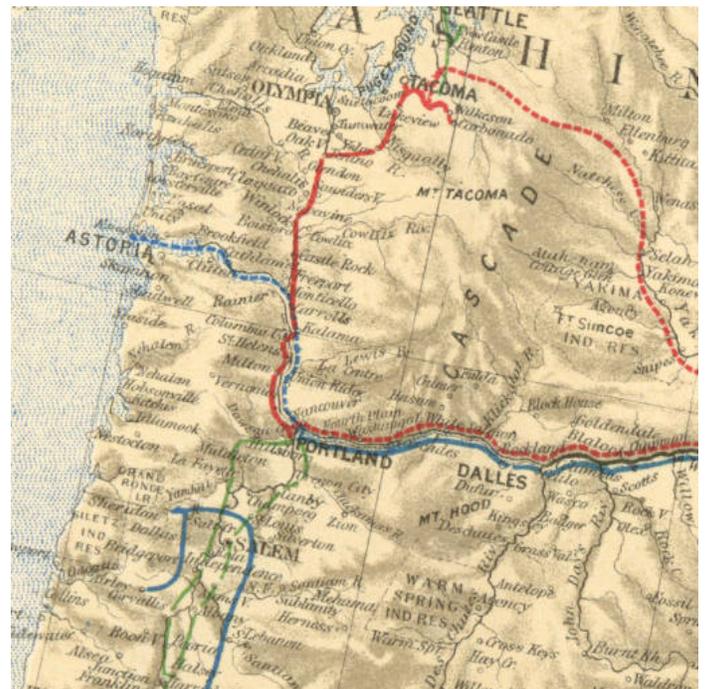
This 1874 map shows the route of the Seattle & Walla-Walla railroad.



Source:

<http://content.libraries.wsu.edu/cdm/singleitem/collection/maps/id/344/rec/2>

This 1883 map shows the empty spaces filling in with cities and towns. While it gets the overall landforms more correct, the red tracks cross the Cascades range over what appears to be a plateau or gentle slope.



Source: University of Washington Libraries Early Washington Maps Collection:

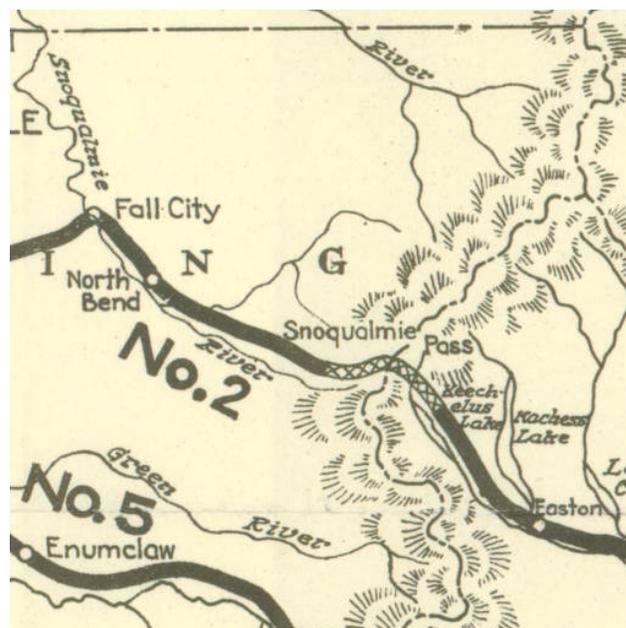
<http://content.libraries.wsu.edu/cdm/singleitem/collection/maps/id/358/rec/1>

The early 1900s saw the creation of the State Highway Department, the first paved roads appearing in 1912. This map from 1924 shows a planned series of road projects across Washington State.

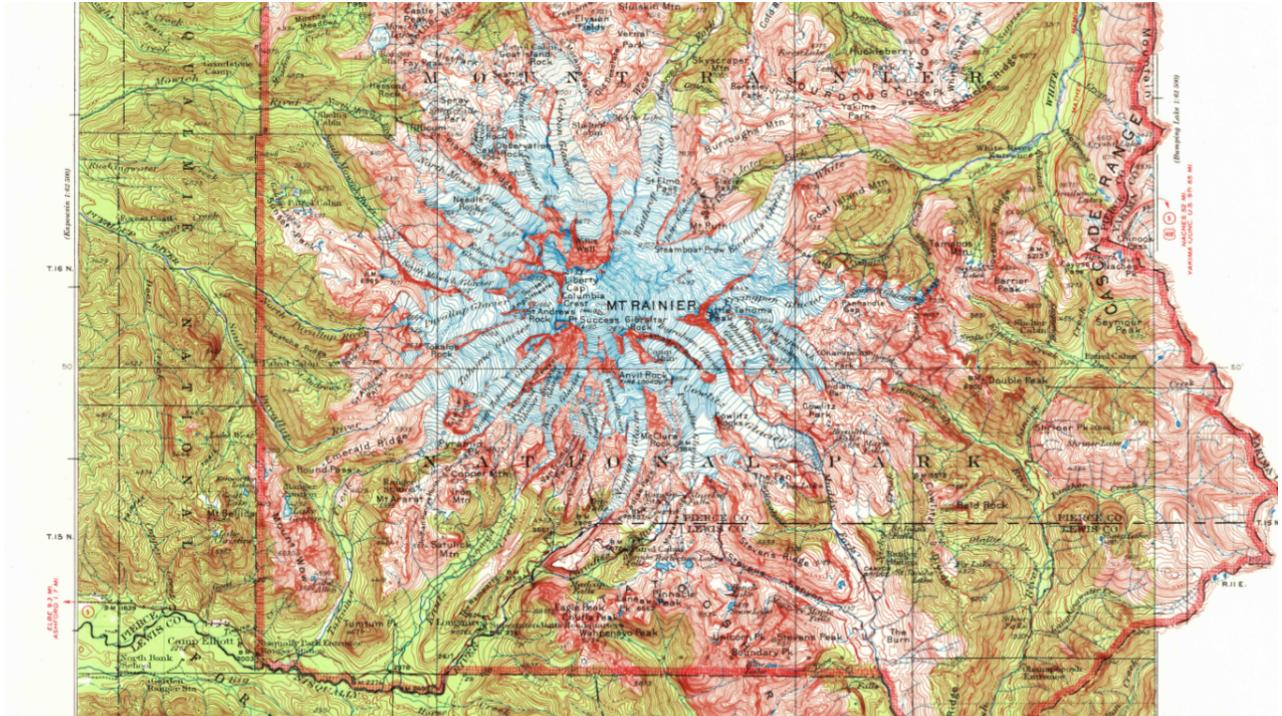


Source:
<http://content.libraries.wsu.edu/cdm/singleitem/collection/maps/id/383/rec/1>

While the macro-level topography and geography has been greatly refined, much of the interior remains vaguely delineated, as seen in this excerpt:



The US Geological Service did the first detailed mapping of Mt. Rainier national park in the period of 1910-1914. This 1924 map of the park reveals the great leaps made in recording landscape detail. Even so, by 1954 only about 30% of the state had been mapped by the USGS.



Source: USGS Map Store, Mount Rainier, WA Historical Map GEOPDF 30X30 Grid 1:25000-Scale1924

Today's detailed maps serve a much different purpose than those of Lewis & Clark, Vancouver and Wilkes. Their maps helped determine the boundaries between countries, the paths of railroads and the sites of deep-water ports. Our maps show us cliffs, gullies and benches, letting us explore every nook and cranny, peak and pond in the mountains. Our map-making skill and technology has increased by leaps and bounds, allowing us to delineate our world with greater and greater precision. I wonder though, might it not be a thrill to find a spot on a USGS map where the contour lines dissolve into blankness, stirring us to go explore the unknown?

The Early Maps of Washington collection is part of the Washington State library system. The website for the collection is:

<http://content.libraries.wsu.edu/index.php/cdm/landingpage/collection/maps>.

You can search the collection and most of the maps are scanned at high resolution, allowing the viewer to zoom in and out for macro or micro views. The timeline section has links to maps related to specific events or explorers.

--Brian Carpenter is a navigation instructor and Seattle Branch Navigation committee member. He leads hikes, naturalist outings and snowshoe trips. He

also volunteers for the first aid scenarios and with the basic wilderness skills class. When he's not busy with the Mounties he can often be found volunteering at Mt. Rainier National Park. On dark winter nights he pores over maps.

Public Service Announcements

Have you ever wanted to climb Mt. Rainier? Here's your chance!

Who we are:

The Chris Hooyman Outdoor Education Fund (CHOEF) is a small charity that focuses on one main simple goal: to provide scholarships for disadvantaged youth to participate in outdoor leadership education programs.

About the climb:

This year, we are doing our 8th Chris Hooyman Memorial Charity Climb of Mount Rainier. We have a couple of spots left on this 3-day climb. All levels of experience are welcome; the only qualifications you need are the desire and determination to meet the challenge of the summit while supporting a great cause!

*WHEN: July 17-19, 2015

*WHERE: Mt. Rainier

*COST: We are asking for a fundraising commitment of \$2,500, which includes a \$400 registration fee.

To reserve your spot or to find out more, email hooymanfund@gmail.com, or go to www.hooymanfund.com/about-the-climb/. You can also find us on Facebook at www.facebook.com/HooymanFund.

2015 Washington State Search and Rescue Conference

King County Search and Rescue will welcome SAR volunteers from all over Washington and beyond to the May 15-17 Washington State Search and Rescue Conference. The early bird \$25 discount expires on April 15 and online registration closes midnight, Monday May 11. Venue this year is the Girl Scout Camp River Reach in Carnation. For more information, follow this link:

<http://us8.campaign-archive1.com/?u=e7bec2db563e6843436889093&id=948c2a00ab>

Inquiries, Contributions, Letters to the Editor to Peter Hendrickson

p.hendrickson43@gmail.com

>>OK to Forward

>>Email Navigation Northwest friends & outdoors partners to distribute

>>Guidelines for contributors: Kindly format in Word as in prior issue.

>>"Do not go where the path may lead, go instead where there is no path and leave a trail." --Ralph Waldo Emerson, American writer, 1803-1882

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